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EXAMINER	
TON, ANTHONY T	

ART UNIT	PAPER NUMBER
2661	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/642,612	WATANUKI ET AL.	
	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-12,14-20,26-29,35-39 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-12,14-20,26-29,35-39 and 41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. **Claim 17** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the limitation "**said protocol processor**" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 14-17, 28 and 29** are rejected under 35 U.S.C. 102(b) as being anticipated by **Shirai et al.** (US Patent No. **5,734,654**) hereinafter referred to as **Shirai**.

a) **In Regarding to Claim 14: Shirai disclosed** an apparatus for receiving packets sent from another apparatus through a plurality of physical lines that connect between said apparatus and another apparatus *(see Fig.3: 13)*, comprising:

a line controller that controls packets flow over said plurality of physical lines *(see Fig.4B)*,

a plurality mode flags, each mode flag associated with one of said plurality of physical lines, and for respectively storing either a primary or a secondary mode therein *(see Fig.5B),*

a plurality of storage areas that store received packets *(see Fig.4A: 13C, 13D and 13E)*; and

a plurality of line receivers *(see Figs.4A and 4B)*; wherein at least one of said plurality of line receivers delivers received packets from one of said plurality of storage areas for forwarding if a mode flag corresponding to said at least one of said plurality of line receivers has a primary mode stored therein *(see Figs.8 and 9: Priority DLCIs and DLCI Cont Table).*

b) **In Regarding to Claim 15: Shirai further disclosed** the apparatus of claim 14, wherein said line controller controls said plurality of physical lines in a first layer of an OSI reference model *(see Fig.8: physical line).*

c) **In Regarding to Claim 16: Shirai further disclosed** the apparatus of claim 14, wherein each of said plurality of line receivers abandons received packets if a mode flag corresponding to said at least one of said plurality of line receivers has a secondary mode stored therein *(see Fig.16 and col.12 line 62 – col.13 line 21).*

d) **In Regarding to Claim 17: Taniguchi further disclosed** the receiving apparatus of claim 16, wherein: a protocol processor performs a protocol process in a third layer or higher of an OSI reference model *(see col.1 lines 21-25: X.25 and packet, and Fig.5A: routers 20A and 20B (hence processing in a third layer)).*

e) **In Regarding to Claim 28: Shirai disclosed** a transmitting and receiving apparatus for exchanging packets with another apparatus through a plurality of physical lines that connect between said apparatus and another apparatus *(see Fig.3: 13)*, comprising:

a line controller for controlling said plurality of physical lines *(see Fig.4B);*

a line transmitting unit that prepares packets with identifier information added thereto, said identifier information unique to each of the packets, in association with a quantity of said plurality of physical lines, and transmits packets having the identical content to said plurality of physical lines *(see Figs.4B and 16: 13H, and col.5 line 61- col.6 line 16).*

mode flags associated with each of said plurality of physical lines, said mode flags operative to store either a primary or a secondary mode *(see Figs.5B, 8 and 9);*

line receivers that deliver received packets from said plurality of physical lines to a protocol processor when said mode flags store a primary mode stored therein *(see Figs.8 and 9: Priority DLCIs and DLCI Cont Table),* said line receivers further operative to abandon received packets when said mode flags store a secondary mode therein *(see Fig.16 and col.12 line 62 – col.13 line 21).*

f) **In Regarding to Claim 29: Shirai further disclosed** the apparatus of claim 28, wherein said line controller controls said plurality of physical lines in a first layer of an OSI reference model *(see Fig.8: physical line).*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. **Claim 41** is rejected under 35 U.S.C. 102(e) as being anticipated by **Taniguchi** (US Patent No. **6,222,841**).

Taniguchi disclosed an apparatus for receiving packets from another apparatus through a plurality of physical lines, comprising:

a packet information storage that stores identifier information unique to each packet, which is added to said received packets *(see Fig.2: 12 and 28; and col.16 lines 33-42)*; and

at least one line receiver for monitoring the received packets *(see Fig.3: block 16: whereby it receives packets transmitted from blocks 18 and 34)* and when the received packets are confirmed, confirming whether identifier information of the received packets are stored in the packet information storage, and when the identifier information having the same contents as those of received packets are not stored therein, allowing said packet information storage to store the identifier information of said received packets therein *(see Fig.2: Filtering information Table and Look-up Table; and col.17 lines 5-18).*

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skilled in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shirai et al.** (US Patent No. **5,734,654**) in view of **Chin** (US Patent No. **6,757,297**).

Taniguchi disclosed all aspects of these claims as set forth in claim 14; and

Taniguchi further disclosed compares each received packet stored in said received packet storage area corresponding to said mode flag changed to said secondary mode and each received packet stored in said received packet storage area corresponding to said mode flag changed to said primary mode *(see Figs.10A and 10B; and col.9 lines 40-65)*.

Taniguchi failed to explicitly disclose a receiving line switching unit that monitors a presence of a failure of one of said plurality of physical lines corresponding to one of said plurality of mode flags storing a primary mode therein, and when a failure is detected, changes said one of said plurality of mode flags storing primary mode therein to a secondary mode, and change another of said plurality of mode flags storing said secondary mode therein to a primary mode, and change another of said plurality of mode flags storing said secondary mode therein to a primary mode; and

receives a received packet equivalent to each packet lost due to said failure.

Chin disclosed such a receiving line switching unit that monitors a presence of a failure of one of said plurality of physical lines corresponding to one of said plurality of mode flags

storing a primary mode therein, and when a failure is detected, changes said one of said plurality of mode flags storing primary mode therein to a secondary mode, and change another of said plurality of mode flags storing said secondary mode therein to a primary mode *(see col.3 lines 34-45).*

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such a receiving line switching unit that monitors a presence of a failure of one of said plurality of physical lines corresponding to one of said plurality of mode flags storing a primary mode therein, and when a failure is detected, changes said one of said plurality of mode flags storing primary mode therein to a secondary mode, and change another of said plurality of mode flags storing said secondary mode therein to a primary mode, as taught by Chin with Shari, so that a failed packet can be delayed for recovery processing. **The motivation** for doing so would have been to provide reliability to packet processing in a data transfer network. Therefore, it would have been obvious to combine Chin with Shari in the invention as specified in the claims; and

Chin also disclosed such receives a received packet equivalent to each packet lost due to said failure *(see col.3 line 47 – col.4 line 39).*

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such receives a received packet equivalent to each packet lost due to said failure, as taught by Chin with Shari, so that a backup connectivity to recovering data when the primary connectivity has failed, in which requires changes to the operation of other layer network equipment such as ability to parse new protocols, nor does it require analyzing and parsing the payload signal. **The motivation** for doing so would have been to provide traffic redirection or

other configuration based on the operation of communications in a different group of network equipments. Therefore, it would have been obvious to combine Chin with Shari in the invention as specified in the claims

10. **Claims 8-12, 26, 27 and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taniguchi** (US Patent No. **6,222,841**) in view of **Shirai et al.** (US Patent No. **5,734,654**).

a) **In Regarding to Claims 8 and 9: Taniguchi disclosed** an apparatus for receiving packets sent from another apparatus through a plurality of physical lines that connect between said apparatus and another apparatus *(see Fig.3: 36)*, said apparatus comprising:

a packet information storage that stores identifier information unique to each packet, said identifier information appended to packets flowing over said plurality of physical lines *(see Fig.2: 12 and 28; and col.16 lines 33-42)*, and

a line receiver unit *(see Fig.3: input unit 10)*, said receiving unit operable to monitor packets *(see Fig.3: block 16: whereby it receives packets transmitted from blocks 18 and 34),* and confirm whether identifier information of said packets has been stored in said packet information storage, and when said identifier information of said received packets has not been stored therein, causes said identifier information of said received packets to be stored in said packet information storage *(see Fig.2: Filtering information Table and Look-up Table; and col.17 lines 5-18).*

Taniguchi failed to explicitly disclose a line controller that controls packet flow over said plurality of physical lines; and wherein said receiving unit operable to monitor packets

received from said plurality of physical lines in accordance with a first layer of the OSI reference model.

Shirai explicitly disclosed such a line controller that controls packet flow over said plurality of physical lines *(see Fig.4A: CPU 13B)*.

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such a line controller that controls packet flow over said plurality of physical lines, said identifier information appended to packets flowing over said plurality of physical lines, as taught by Shirai with Taniguchi, so that a packet can be forwarded to its destination properly. **The motivation** for doing so would have been to provide an arrangement for different types of packets in a distribution network. Therefore, it would have been obvious to combine Shirai with Taniguchi in the invention as specified in the claim; and

Shirai also explicitly disclosed such a receiving unit operable to monitor packets received from said plurality of physical lines in accordance with a first layer of the OSI reference model *(see Figs.4A and 4B: 13F and 13G, and Fig.8: physical line)*.

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such a receiving unit operable to monitor packets received from said plurality of physical lines in accordance with a first layer of the OSI reference model, as taught by Shirai with Taniguchi, so that arrived packets at a receiving apparatus can be verified their status such as packet type, QoS and destination address. **The motivation** for doing so would have been to provide enhancement in packet processing in a data transfer network. Therefore, it would have been obvious to combine Shirai with Taniguchi in the invention as specified in the claim.

b) **In Regarding to Claim 10: Taniguchi further disclosed** the receiving apparatus of claim 8, wherein when said identifier information of said received packets has not been stored, said line receiver stores said identifier information of said received packets in said information storage; thereupon forwards said received packets, deletes said identifier information *(see col.10 lines 39-52).*

c) **In Regarding to Claim 11: Taniguchi further disclosed** the receiving apparatus of claim 10, wherein: said line receiver forwards said received packets in accordance with a second layer of an OSI reference model *(see Fig.7A: video frame (hence the second layer of the OSI)).*

d) **In Regarding to Claim 12: Taniguchi further disclosed** the receiving apparatus of claim 10, further comprising a protocol processor that receives said forwarded packets whose identifier information has been deleted, from said receiver and thereupon effects a protocol process in at least a third layer of an OSI reference model on said packets *(see col.3 lines 2-7; col.9 lines 39-52; and Fig.3: 60 (processor) and network 31 (hence layer 3 in the OSI reference model)).*

e) **In Regarding to Claims 26 and 27**: All the claimed limitations of these claims have been the same as that of claims 8 and 9 respectively, **except for** a line transmitting unit as the following:

a line transmitting unit that prepares packets with identifier information added thereto, said identifier information unique to each of the packets, said packets prepared in association with a number of said plurality of physical lines, said line transmitting unit operative to transmit packets having the same contents to said plurality of physical lines. However, **Shirai** explicitly disclosed a number of said plurality of physical lines as described in the claims 8 and 9 above,

and **Taniguchi also disclosed** such a line transmitting unit *(see Fig.3: transmission unit 14, and Figs.16 and 17).* Therefore, these claims would be rejected in the same reason of claims 8 and 9 as being unpatentable over Taniguchi and in view of Shirai.

f) **In Regarding to Claim 35**: **Taniguchi** disclosed all aspects of this claim as set forth in claim 8.

Taniguchi failed to explicitly disclose wherein said identifier information comprises a Frame Check Sequence (FCS) value of such as an Ethernet frame.

Shirai disclosed such a Frame Check Sequence *(see Fig.2).*

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such a Frame Check Sequence, as taught by Shirai with Taniguchi, so that arrived packets at a receiving apparatus can be verified their sequence. **The motivation** for doing so would have been to provide enhancement in packet processing in a data transfer network. Therefore, it would have been obvious to combine Shirai with Taniguchi in the invention as specified in the claim.

11. **Claims 36-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taniguchi** (US Patent No. **6,222,841**) in view of **Shirai et al.** (US Patent No. **5,734,654**) as applied to claim 8 above, and further in view of **Krishna et al.** (US Patent No. 6,330,248) hereinafter referred to as **Krishna**.

Taniguchi disclosed all aspects of these claims as set forth in claim 8.

Taniguchi failed to explicitly disclose wherein said identifier information comprises a Frame Check Sequence (FCS) value of such as an IEEE 802.3 frame, an IEEE 802.5 Token Ring Frame, an ANSI X3T9 FDDI frame, and a CRC value of an ANSI X3T9 fiber channel frame.

Krishna disclosed such Ethernet protocol, ANSI/IEEE standard 802.3, FCS and CRC *(see col.1 lines 20-44; and col.4 line 3 – col.5 line 32).*

At the time of the invention, **it would be obvious** to a person of ordinary skill in the art to combine such a Frame Check Sequence, as taught by Krishna with Taniguchi, so that two stations can simultaneously transmit and receive data packets between each other without collision. **The motivation** for doing so would have been to provide enhancement and reliability in packet transmission in a data transfer network. Therefore, it would have been obvious to combine Krishna with Taniguchi in the invention as specified in the claims.

Response to Arguments

12. Applicant's arguments filed on **May 17, 2004** with respect to claims **8-12, 14-20, 26-29, 35-39** and **41** have been considered but are moot in view of the new ground(s) of rejection.

Examiner Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT
8/7/2004

Phirin San
8/9/04